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MANUAL OF ADMINISTRATION AND RECORDING METHODS FOR THE STAATS "MOTIVATED LEARNING" READING PROCEDURE.

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THE STAATS MOTIVATED LEARNING READING PROCEDURE IS AN APPLICATION OF AN INTEGRATED-FUNCTIONAL APPROACH TO LEARNING IN THE AREA OF READING. THE METHOD INVOLVES A SYSTEM OF EXTRINSIC REINFORCEMENT WHICH EMPLOYS TOKENS BACKED UP BY A MONETARY REWARD. THE STUDENT REPORTS TO THE PROGRAM ADMINISTRATOR SOME ITEM FOR WHICH HE WOULD LIKE TO WORK, SUCH AS A PHONOGRAPH RECORD OR A PAIR OF SHOES, AND THE ITEM'S EXACT PRICE. WHEN HE HAS EARNED TOKENS WHICH EQUAL THE AMOUNT NECESSARY, HE IS GIVEN THE MONEY AND ALLOWED TO BUY THE ITEM. PROCEDURES ARE EXPLICIT, SIMPLE TO ADMINISTER, AND ARE APPLIED ON A 1-TO-1 BASIS BY NONPROFESSIONAL PERSONNEL. THE PROCEDURES ARE DESIGNED TO PROGRESSIVELY REDUCE THE AMOUNT OF REINFORCEMENT GIVEN PER READING RESPONSE AS THE TRAINING PROGRESSES. THE METHOD HAS PROVED APPLICABLE TO STUDENTS WITH SEVERE BEHAVIOR PROBLEMS, TO THE EMOTIONALLY DISTURBED, THE EDUCABLE MENTALLY RETARDED, AND TO STUDENTS FROM REGULAR ELEMENTARY AND JUNIOR HIGH CLASSROOMS IDENTIFIED AS POOR READERS. SAMPLES OF THE MATERIALS USED AND STEP-BY-STEP LESSON PROCEDURES ARE APPENDED. (RH)

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Manual of Administration and Recording Methods for the Staats 'Motivated Learning' Reading Procedure

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Madison, Wisconsin

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FOREWORD

This manual was prepared for the Dissemination Conference held May 8 and 9, 1967, in Madison, Wisconsin. Its purpose is to introduce the participants in the conference to this phase of research and development being conducted by the Wisconsin Research and Development Center for Cognitive Learning. It is not meant to be a full report of the research done. For a more comprehensive report of the research findings the reader is referred to the articles and reports to be found in the bibliography.

The Staats Motivated Learning Reading Procedure is an application of an integrated-functional approach to learning in the area of reading. To the learning theorist, the main interest of this work would probably be in the application of basic learning principles to a complex human problem. To staff of public schools, the chief interest in these procedures would be in their potential as an aid in the remediation of reading difficulties.

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INTRODUCTION

A. W. Staats (Staats, 1965a, 1965b, in press, Staats & Staats, 1963) has suggested a general learning theory of human behavior called an integrated-functional learning approach. An essential feature of this approach is that its principles and methods must be capable of dealing with functional human behaviors and contribute to the treatment of actual problems of human behavior. One aspect of this approach has involved laboratory studies of basic learning principles in the context of the complex behavior of reading acquisition (Staats, Staats, Schultz, and Wolf, 1962; Staats, Finley, Minke, & Wolf, 1964; Staats, Minke, Finley, Wolf, & Brooks, 1964).

In addition on the basis of the previous findings and analyses, a method was devised for the treatment of children who, because of learning problems, have not been able to read normally. The method which involved a system of extrinsic reinforcement employing tokens was initially tested with unusual success in a study on a fourteen-year-old, culturally deprived, juvenile delinquent (Staats & Butterfield, 1965). The procedure was applied by a person untrained in teaching--a probation officer. At a very modest cost for the reinforcers ($20.31), a formerly untrainable child participated enthusiastically and learned well during the four and one-half months of treatment.

Further testing of this program was done in a study involving eighteen junior high school students identified as severely retarded in reading (Staats, Minke, Goodwin, and Landeen, 1967). Of these, seven students were enrolled in special classes for the educably mentally retarded. The instructional technicians who actually administered the procedures to the students were volunteer

housewives and high school seniors. In general, the procedure and the reinforcer system appeared to be functional, and the attention, attendance, cooperation, and diligent work behavior of the various children was maintained in good strength throughout the length of the study.

At the present time, two studies are being conducted which are designed (1) to further validate the basic procedures; (2) to extend the type of subject upon which the program has been validated and the type of instructional technician used; and (3) to test the need for material reinforcers.

FEATURES OF THE PROGRAM

The procedures are amenable to a wide variety of students retarded in reading, particularly those students who, for one reason or another, are difficult to teach in the normal classroom situation. The procedures are explicit and simple to administer and are applied on a 1-to-1 basis by non-professional personnel. The students' attention, cooperation, and learning are maintained through the use of a material reinforcer system involving tokens backed up by monetary reward. The procedures are designed to progressively reduce the amount of reinforcement given per reading response--or conversely to require more reading responses per unit of reinforcement--as the training progresses.

IDENTIFICATION AND CHARACTERISTICS OF STUDENTS

In the research to date, students who have been defined as poor readers on the basis of standard achievement tests, teacher referrals, and so on, have been identified as potential subjects. Final selection of subjects for participation in the studies was done on the basis of a one hundred-item word recognition

test developed from the reading material. This test consisted of one hundred words randomly selected from the reading materials used in the experimental sessions; twenty words were selected from each of five grade levels (1.2, 1.7, 2.3, 3.0, 4.0).

The subjects used in the experiments have had scores on the one hundred-item word recognition test ranging from 9 to 80. Those subjects at the upper end of this range appear to find the materials a little too easy. (It must be remembered that these scores are based on a specific test developed from a specific set of materials. While the principles involved may have some validity for another test derived in a similar way from other materials, this remains to be experimentally demonstrated.)

In the studies being conducted at the present time, a large number of the subjects are at the lower end of this range. The difficulty level of these materials might be too high for these students. However, since all the data has not yet been collected and analyzed, no fast judgment can be made.

At the junior high school level, a number of different groups of students have been identified as severely retarded readers on the basis of the above procedures. These include students identified as severe behavior problems, emotionally disturbed, educable mentally retarded, as well as students from the regular classroom. At the elementary school level retarded readers have been identified in the regular classroom and in special classes for the educable mentally retarded and emotionally disturbed. The procedures appear to be applicable to these various groups.

SELECTION AND TRAINING OF INSTRUCTIONAL TECHNICIANS

The basic requirements for the instructional technicians (the individuals who actually administer the materials to the students) are that they possess an acceptable reading ability and that they be responsible individuals. The majority of the instructional technicians have been adult volunteers from the area surrounding the participating schools. They were selected by asking school principals, PTA officers, and teachers if they knew literate and responsible adults in the school area who might be interested in participating in such a program.

The instructional technicians in this category administered the program to one or two children, i.e., one or two hours a day, and were paid at the rate of $2.00 an hour to cover transportation costs, baby sitter expenses, and so on.

Another group of instructional technicians consisted of high school seniors identified by principals and teachers as being average, responsible students. Research in progress is, in addition, utilizing high school juniors and seniors who are regarded as responsible and literate but whose grades are below average. The high school students work with their pupils during their regularly scheduled study halls and are paid $1.25 an hour.

A third major category of instructional technician being utilized in the research program consists of full-time personnel from culturally deprived areas. These instructional technicians each work with six students a day and are paid $360.00 a month.

The training of instructional technicians involved approximately four hours. During this time they received a demonstration of the procedures by the research supervisors and were given a basic outline of the procedures (see

Appendix A). Then detailed instructions concerning the administration of the procedures and the keeping of data were given. Questions were handled as they arose. Finally, the instructional technicians were given actual practice in administering the materials taking turns playing the role of a child. This was done under the continual supervision of the research supervisor. Some adult administrators elected to come to an additional session for this practice in the administration of materials.

While the administrators were frequently observed throughout the course of the study, a special attempt was made for the research supervisor to be present at the first few sessions when the instructional technician first started working with his student.

DESCRIPTION OF INSTRUCTIONAL PROCEDURES

Materials

The materials used in this program to date have been taken from the S.R.A. Reading Laboratory materials; they consist of a series of stories developed for different grade levels. Each story is considered to be a separate reading lesson.

It should be noted that sources other than the S.R.A. Reading Laboratory may be used in selecting materials for this procedure. The S.R.A. stories have several features which make them particularly amenable for research purposes. First, there exists a somewhat controlled introduction of new words in each lesson. Second, a set of comprehension questions is available for each story. In addition, as grade level increases, the stories become more difficult, they are longer overall, and paragraph length increases. This results in gradually decreasing the average amount of reward delivered for each response.

The first step in adapting materials for this reading training program consisted of making a running list of the new words that appear in the stories. Each word, or form of a word (past tense, plural, etc.), that had not occurred in a previous story was added to the list. From this list the new words that occurred in a given lesson were selected and were each typed on a separate 3 x 5 index card. Each paragraph in the story was typed on a separate 5 x 8 card, and the entire story was typed on a regular 8-1/2 x 11 sheet of paper. The comprehension questions were also typed on a separate 8-1/2 x 11 sheet of paper. This comprises the materials which are presented to the student during the training. In addition, data sheets were prepared for each lesson (see Appendix B). These data sheets are used by the instructional technician and are not shown to the student during the training.

In addition to the individual lessons, each instructional technician was furnished with a packet of materials which included pencils, paper clips, rubber bands, Vocabulary Review data sheets, 100 each of yellow, red, and blue tokens, and charts for plotting the monetary or point value of the tokens delivered each day. The uses to which these materials were put will be illustrated and discussed at the appropriate time in the following sections.

Procedures

Each lesson consists of four phases: the Individual Word Phase, Oral Reading Phase, Silent Reading Phase, and the Comprehension Phase. These phases will be individually discussed in detail below.

Individual Word Phase. The first phase consists of the individual presentation of each word that occurs in the lesson being covered and that has never

before been presented to the reading student (S) in the program. Each word is presented on a separate 3 x 5 index card. The words are presented to S one at a time, and S is asked to read them.

On the first time through the stack of cards for a given lesson, every correct reading of a word is rewarded with a yellow token (worth 1/5 of a cent or two points). Whenever a card is read correctly, it is removed from the stack. Whenever S reads a word incorrectly, or does not read it at all, the instructional technician tells S what word is typed on the card, and S is then to repeat the word while looking at it. It is particularly important that S repeat the word while looking at the card, and the instructional technician must be sure to watch S at this time. If he is not looking at the word when he responds, he must be instructed to look at the word and say it again. When S has properly responded to the card after being prompted, it is returned to the group of cards still to be presented. No token is delivered at this time.

After having gone through the original stack once using this procedure, the stack, with the words removed to which S has already responded correctly, is presented again to S, and the same procedure as above is used (i.e., words which S reads correctly are removed from the stack, and words which S reads incorrectly are prompted but not rewarded and then returned to the stack for later presentation). However, a blue token (worth 1/10 of a cent or one point) is presented contingent upon a correct reading response made to a word missed the initial time it was presented. When there are no more cards in the stack, i.e., when S has read each word correctly, without prompting, once, the Individual Word Phase is ended, and the Oral Reading Phase is instituted.

In actual practice it was found that the administering of tokens immediately following each response was unwieldy in that the instructional technicians were having difficulty presenting materials, watching S, keeping data, and delivering tokens all at the same time. Therefore, all tokens were delivered at the end of each phase rather than in an immediately, response-contingent manner.

Among the materials contained in the packet of materials given to each instructional technician are to be found a group of data sheets (Appendix B). There are three data sheets for each lesson in the program; each data sheet is labeled according to the lesson to which it belongs. Below is an example of the Individual Word Phase of a sample data sheet:

Individual Word Phase

	1	2	3	4	5	6	7	8	9	10/. . ./20
monkey	0	+								/ /
roof	+									/ /
kangaroo	0	+								/ /
pocket	0	0	+							/ /
had	+									/ /
fell	0	0	0	0	+					/ /
from	+									/ /

The numbered columns refer to the number of times the stack has been presented. For example, the first time through the stack, Column 1 is to be used; the second time through, Column 2 is to be used; the eighth time through, Column 8 is to be used; and so on. The instructional technician is to keep track of S's performance in this phase of the lesson by placing the appropriate symbol in the appropriate square on each trial. A plus (+) is to be placed in the square

when S reads the word correctly, and a zero (0) is to be placed in the square when S reads the word incorrectly. After the first time through the stack, the square is to be left blank if the word has already been removed from the stack.

A sample performance has been recorded in the above example. As can be seen, on the first time through the stack, S read the words roof, had, and from correctly (and thus received three yellow tokens), but did not read the words monkey, kangaroo, pocket, or fell. The instructional technician prompted S on each of the latter four words. On the second time through the stack, after the words which had been read correctly the first time through had been removed, the only words left were monkey, kangaroo, pocket, and fell. On this time through the stack, S read monkey and kangaroo correctly, thus receiving two blue tokens, but still made errors on pocket and fell, at which time he was prompted again. These latter two words comprised the stack on the third time through, and this time S read pocket correctly (receiving a blue token), but still misread fell, and was again prompted. On the fourth time through the stack, the stack consisted of only one word--fell. Nevertheless, S still made an error, was prompted again, and the word had to be presented a fifth time. At this point S read the word correctly, receiving a blue token, and the Individual Word Phase for this lesson was completed.

Oral Reading Phase. The materials for the Oral Reading Phase consist of each paragraph of the story being presented typed on a 5 x 8 index card. These cards are presented in the order they appear in the story. S reads the card, and when he reads the entire paragraph without an error, he receives a red token (worth 1/2 cent or 5 points) when he finishes. When S reads a word incorrectly on the card, the instructional technician should point to the word, and he must

repeat the word while looking at it. It is again important to monitor S's performance carefully while he is actually reading. After he has finished the card upon which the error(s) occurred, the card is put aside (with no token delivered) and then presented again after the remainder of the cards have been presented. If errors occurred on two or more cards, all these cards would be presented again before a third trial on any card. The paragraph is repeated until S has read it through in its entirety without error, at which time a yellow token is presented. When all of the paragraphs in a story have been completed correctly, the next phase of the training is commenced.

The data for this phase of the lesson is recorded on a portion of the data sheet consisting of the paragraphs being presented to S typed one beneath the other in sequential order. Whenever S makes an error on a word, a line should be drawn through that word. If an error occurs the second time a paragraph is presented, the word should be underlined. Errors on the third presentation of the card are denoted by an underline below the word, located halfway between the typed line containing the word and the following line. If an error occurs on the same word several times, this should be noted by the use of multiple lines drawn in the appropriate places on the data sheet. Below is a sample of the Oral Reading Phase portion of a data sheet:

Oral Reading Phase

1. One ~~bright~~ spring day some baby ducks are hatched in a nest by a pond. ~~High~~ in a tree by the ~~pond~~ is a nest of baby robins. How different the ~~lives~~ of these birds will be!

2. When little ducks come from their shells, they are covered with a thick coat of soft feathers. Soon they are running along after their mother. Only a day or two later, they are swimming and playing together in the pond.

In the first paragraph, S made an error on the words bright, high, pond, and lives the first time the paragraph was presented to him. On the second time the paragraph was presented (i.e., after all the paragraphs in the lesson had been presented once), he missed the words bright and lives again, but he also made an error on the words nest and baby, words which he had read correctly the first time he read the card. On the third time the card was presented, S again made an error on the word bright, made another error on the word nest, and made an error on the word pond, which he had read correctly the second time the card was presented. He also made an error on the word some, a word he had read correctly on the two previous presentations of the card. On the fourth trial S finally read the entire paragraph correctly, and thereby received a yellow token. On the second paragraph no errors were made, i.e., S read the entire paragraph without error the first time it was presented. A red token was delivered at this time.

Silent Reading Phase. Following the Oral Reading Phase, S is given the sheet containing the story appropriate to the particular lesson upon which he has been working. These materials are typed on regular 8-1/2 x 11 sheets of paper. S is instructed to read the story silently and is told that it is important to read to understand the story so that he can answer questions on it later.

It is important that the instructional technician watches S closely to ensure that he is actually reading the story. If it is apparent that S is not carefully attending to the story, the instructional technician should require him to read aloud during this phase on subsequent lessons. It has been found that reading aloud in this phase for several sessions is usually sufficient to result in adequate attention on the part of S so that he may subsequently read silently.

S is given four yellow tokens upon the completion of the story, at which time the next phase is instituted. No data is kept by the instructional technician during this phase.

Comprehension Phase. The comprehension questions take one of two forms: some of the questions require a written answer, and some are of the multiple choice type. In the latter case, S is to write his answers (or circle his answers) to the comprehension questions and then hand them to the program administrator. For each correct answer, a red token is presented. If a spelling error has been made when a written answer is required, S must correct his answer, and then a yellow token is presented. For incorrect answers S must reread the appropriate paragraph and correct his answer, at which time a blue token is delivered. In order to facilitate the selection of the appropriate paragraph card, on the data sheet the number of the paragraph from which the question was drawn is indicated in parentheses alongside the question.

By attaching to the data sheet the sheet containing the questions, a record of S's correct responses and errors will be retained. The end of this phase marks the completion of the lesson. At this point the whole procedure is repeated with the next lesson in the series.

Vocabulary Review. Some of the words presented in the Individual Word Phase of the procedure will be words that S already can read. Many others, however, are words that the procedure is set up to teach. Short-term retention of these words can be assessed through an analysis of the Oral Reading Phase. It is the purpose of the Vocabulary Review to assess more long-term retention of these words. The Vocabulary Review is to be presented following every 20 reading lessons. It is important to note that the Vocabulary Review deals only with the words which were presented in the immediately preceding 20 lessons--not in all the lessons presented to date.

The materials necessary for the Vocabulary Review are to be taken (or prepared) from the materials used in the Individual Word Phase of each lesson. Each day, after S has left, the instructional technician is to set aside the individual word cards on which errors had been made during that session. This information is obtained from the data sheets. For example, on the day illustrated in the sample on page 8, after the session the instructional technician would pull the cards containing the words monkey, kangaroo, pocket, and fell from the stack of word cards. These cards are then stored in a separate envelope, to be used at the appropriate time.

In addition, it is the responsibility of the instructional technician to employ a blank data sheet for the Vocabulary Review (Appendix C). This is to be done at the same time that the word cards are removed at the end of each session. What is required here is that the instructional technician write the words for which he has pulled cards in the left-hand column of the data sheet. Each day the words missed in that session are added to the Vocabulary Review data sheet. By doing this daily, the data sheet will be constructed by the time

the Vocabulary Review is presented. It is important in terms of simplifying data-keeping to keep the cards to be used in the Vocabulary Review in the same order as they appear on the Vocabulary Review data sheet.

At the end of each 20 sessions, the instructional technician should take the cards which had been set aside from each lesson and combine them into a single stack (again following the order that the words appear on the Vocabulary Review data sheet). This stack is then presented in the same manner as the Individual Word Phase of the individual lessons. That is, words which S reads correctly are removed from the stack, and a yellow token is administered for each correct reading. Words upon which errors occur are to be re-presented, and then a blue token is delivered upon correct rereading of the word. The procedure is repeated until S has read each word correctly, without prompting, once.

The Vocabulary Review data sheet is used in the same manner as the Individual Word Phase section of the individual lesson data sheets. That is, the instructional technician is to place the appropriate symbol (+ or 0) in the appropriate square each trial. At the end of the Vocabulary Review, the next lesson is presented.

The Token System. An important aspect of this procedure is the use of a motivational system consisting of tokens which are made contingent upon correct responding and which are exchangeable for various rewards. Three colors of tokens are used in the procedure, each color representing a different value. Thus, a blue token is worth 1/10 of a cent, or 1 point, a yellow token is worth 1/5 of a cent, or 2 points, and a red token is worth 1/2 cent, or 5 points. The monetary or point value of the tokens earned each day is plotted on a special chart so that visual evidence of the tokens earned is available to S. In one of

the studies now in progress, some S s receive only points for their tokens. Thus the point value is plotted on the chart and constitutes the only formal back-up reinforcement S s receive. Instructions for the delivery of tokens are presented in detail in the sections dealing with the various phases of the reading procedure.

The manner in which the tokens were exchanged for material rewards was to allow S to purchase a variety of items with his tokens. S reports to the program administrator some object for which he would like to work, such as a phonograph record, hair cream, a pair of shoes, and so on, and the item's exact price. When he has earned tokens whose monetary value equals the amount necessary for the purchase of the item, he is given the money and allowed to buy it.

At the end of each session the value of the tokens earned is computed using the computational guides provided on the graph (Appendix D) and added to the amount which had been earned in previous sessions. This amount is then plotted on the graph. For best visual effect, a bar graph is used. Each time S earns his pay-off, a new progress chart is started. If on the day that S has reached his criterion, he earns more tokens than the object for which he is working costs, the additional amount is entered immediately on the new chart.

The proper use of this chart involves entering S's progress in his presence, with substantial positive comment and approval on the part of the instructional technician. Regardless of S's progress during the session, he should be made to feel that he has performed well.

It is important throughout the session that a positive, approving atmosphere prevail. Instructional technicians should be instructed to avoid the

use of any verbal or nonverbal means of indicating disapproval or failure. This includes the use of so-called "motivational" comments, such as "wrong," "you can do better than that," "try a little harder," and so on.

In the research to date, S's daily earnings were never allowed to drop below $.20 or 200 points. This was effected by introducing a bonus system. Whenever S's earnings fell below $.20 (200 points) for any one session, he was given a bonus of $.05, $.10, or $.15 (50, 100, or 150 points), whichever amount was needed in order to bring his earnings for that day up to between $.20 and $.25 (200 and 250 points). When the bonus system was introduced, S was told that he could not move as rapidly as before because the material upon which he was working was difficult, but if he continued to work hard he would be given a bonus at the end of the session.

The Session. Although the decision as to how long to work with S s each day is a somewhat arbitrary one, for various reasons one-half hour of actual reading time each day was settled upon for this research. This includes only the time spent on the actual reading of the lessons, and it does not include the time required to set up the materials initially, enter the day's earnings on the graph, and so on. S s have participated in the reading program for as many as 80 sessions (40 hours total time) of reading training with no evidence of a weakening of the effectiveness of the reinforcer system.

Usually more than one lesson is covered in any one session. Occasionally, S progresses only part way through a lesson before the time elapses. There are two permissible stopping places within a lesson, i.e., after the Individual Word Phase or after the Oral Reading Phase. Stopping after the Silent Reading

Phase would result in an inflated error rate in the Comprehension Phase. When a lesson is split across two sessions, two data sheets are used to facilitate the compilation of the data.

PROGRAM EVALUATION

Because of the highly detailed information contained on the data sheets, much more information has been collected than has been analyzed to date. For an example of the types of data which have been extracted from the data sheets, see the sample summary sheet in Appendix E. The data entered on these sheets have been compiled both by lesson and by session. The use to which the summarized data has been put is illustrated in Staats and Butterfield (1965), and Staats, Minke, Goodwin, and Landeen (1967).

In general, the findings have shown that as training progressed, S's rate of learning tended to increase. It was concluded that S's attending and reading responses did not decrease during the training period and that the reinforcement system was able to maintain the necessary behaviors for a considerable period of time. The Ss covered a large amount of reading material, learned to read new words presented individually and in context, and retained a good proportion of what they had learned.

An attempt was made to use standard reading achievement tests to evaluate the effectiveness of the program. However, in general the standard test results did not show a difference between the pre- and post-test measures for the experimental over the control Ss. There are at least three explanations for this lack of effect: 1) the training materials may not produce general skills that transfer to other tasks, such as taking achievement tests; 2) the tests themselves may have been too difficult, thus leading to the most likely possibility; 3) the Ss' test-taking behavior was inappropriate, i.e., it consisted of indiscriminate

marking of items. It was observed by the test administrators that at least some children were flagrantly guessing. Two studies conducted during 1967 attempt to control for some of the above possibilities; the first author plans additional research in this area of study.

One more point remains to be made. The analyses to date had specific purposes related to the research being conducted. Thus, it is up to the individual administrator of such a program to make the decision as to the types of data he wishes to examine in order to assess the effects he personally feels are important. It should perhaps be re-emphasized that a wealth of data is generated by this program, which is amenable to a wide variety of research purposes.

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APPENDIX A

I. Before Session

A. Pick up needed materials.

B. Check for memos.

C. Set out materials.

D. Fill out top portion of Data Sheet.

E. Record starting time.

II. Individual Word Phase

A. Present the cards, one at a time to the student. When the student doesn't know a word, point to the word and be certain he looks at the word as he repeats it after you.

B. Score the Data Sheet as you go along; however, give the tokens at the <u>end</u> of the phase. A <u>yellow</u> token is presented for each + recorded in the <u>first</u> column of the Data Sheet, and a <u>blue</u> token for each <u>O</u>.

C. Data keeping

1. Place appropriate symbol in appropriate square each trial (+ or O).
2. Leave square blank after card has been removed from stack.
3. Keep cards in order.

III. Oral Reading Phase

A. Present the cards, one at a time, to the student, reading along silently with the student from his copy. When he doesn't know a word, point to it and be certain he looks at the word as he repeats after you.

B. Score paragraph errors on the Data Sheet after each paragraph has been read. Tokens are given at the <u>end</u> of the phase. A <u>red</u> token is delivered for each paragraph that was <u>completely</u> correct the first time it was presented. A <u>yellow</u> token is delivered for any paragraph containing at least one error.

C. Data keeping

1. Errors on first reading of a paragraph are denoted by drawing a line <u>through</u> the word on the Data Sheet.
2. Errors on the second reading of a paragraph are denoted by drawing a line directly <u>under</u> the word on the Data Sheet.
3. Errors on the third reading of a paragraph are denoted by drawing a line <u>half-way</u> between the typed line containing the word and the following typed line.
4. If an error occurs on the same word several times, this is noted by the use of multiple lines drawn in the appropriate places on the Data Sheet.

IV. Silent Reading Phase

A. Four <u>yellow</u> tokens are given when the student finishes the story.

B. No data is necessary for this phase.

V. Comprehension Phase

A. For each misspelled answer (when written answer is required), <u>S</u> must correct his answer.

B. For each incorrect answer, <u>S</u> must re-read the appropriate paragraph and correct his answer.

C. In checking comprehension sheet, draw a line through incorrect written answers, and place a checkmark beside incorrect multiple-choice answers. Do not erase these marks.

D. At the end of the phase give a <u>red</u> token for each correct answer, a <u>yellow</u> token for each misspelled answer and a <u>blue</u> token for each incorrect answer.

VI. After Session, before <u>S</u> leaves

A. Record finishing time.

B. Count up number of tokens of each color and enter this on Data Sheet.

C. Figure out points earned in appropriate place on graph.

D. Add these points to the number of points earned previously.

E. Draw line on token acquisition graph at appropriate height and shade in column under the line.

F. Enter session number under appropriate column.

VII. After Session, after S leaves

A. Write words upon which errors have been made during Individual Word Phase in left-hand column of Vocabulary Review Data Sheet.

B. Add individual word cards, in the same order as they appear on the Vocabulary Review Data Sheet to bottom of stack of previously missed words and bind with rubber band.

C. Store Vocabulary Review materials in envelope supplied for this purpose in the Program Administrator's Kit.

D. Place all materials back in file until next day.

VIII. Vocabulary Review

A. Present the cards, one at a time to the student. When the student doesn't know a word, point to the word and be certain he looks at the word as he repeats it after you.

B. Score the Data Sheet as you go along; however, give the tokens at the end of the phase. A yellow token is presented for each + recorded in the first column of the Data Sheet, and a blue token for each O.

C. Data keeping

1. Place appropriate symbol in appropriate square each trial (+ or O).
2. Leave square blank after card has been removed from stack.
3. Keep cards in order.

APPENDIX B

Student _____
Administrator _____
Session _____
Date _____

Lesson 4
Data Sheet

Individual Word Phase

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25
from																									
kangaroo																									
had																									
roof																									
fell																									
pocket																									
monkey																									

Oral Reading Phase

1. A monkey sat on a roof.
2. The monkey saw a kangaroo.
3. The kangaroo had a pocket.
4. The monkey fell from the roof.
5. He fell into the pocket!
6. The kangaroo and the monkey laughed.

Comprehension Phase

How Well Did You Read?

1.	A monkey sat on a __(roof)__.	(parag. 1)	pocket
2.	The monkey saw a __(kangaroo)__.	(parag. 2)	roof
3.	The kangaroo had a __(pocket)__.	(parag. 3)	laughed
4.	The kangaroo and the monkey __(laughed)__.	(parag.6)	kangaroo

Attach S's sheet with comprehension questions to Data Sheet.

Number of tokens:
blue _____
white ____
red _____

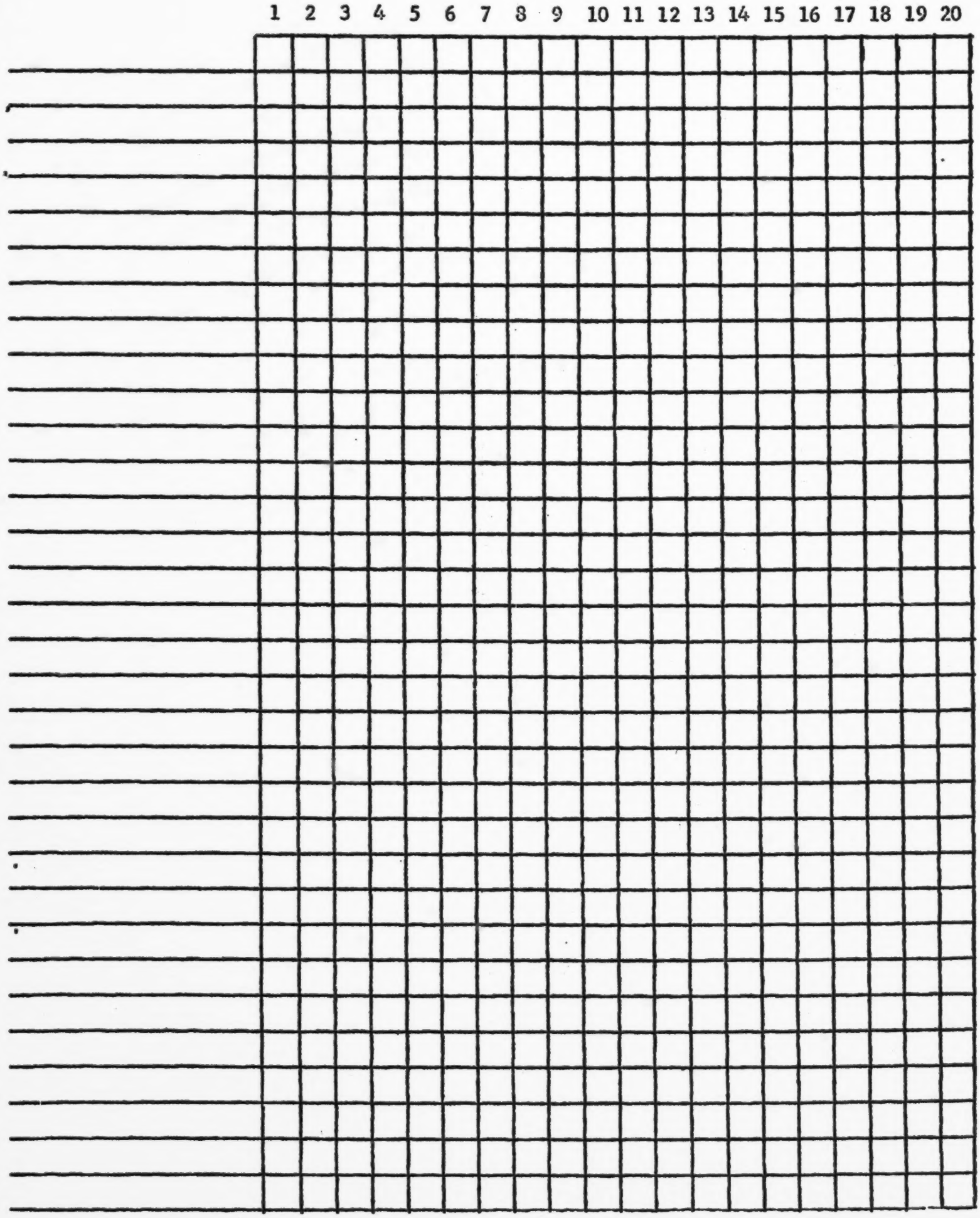
Write comments on back of sheet.

APPENDIX C

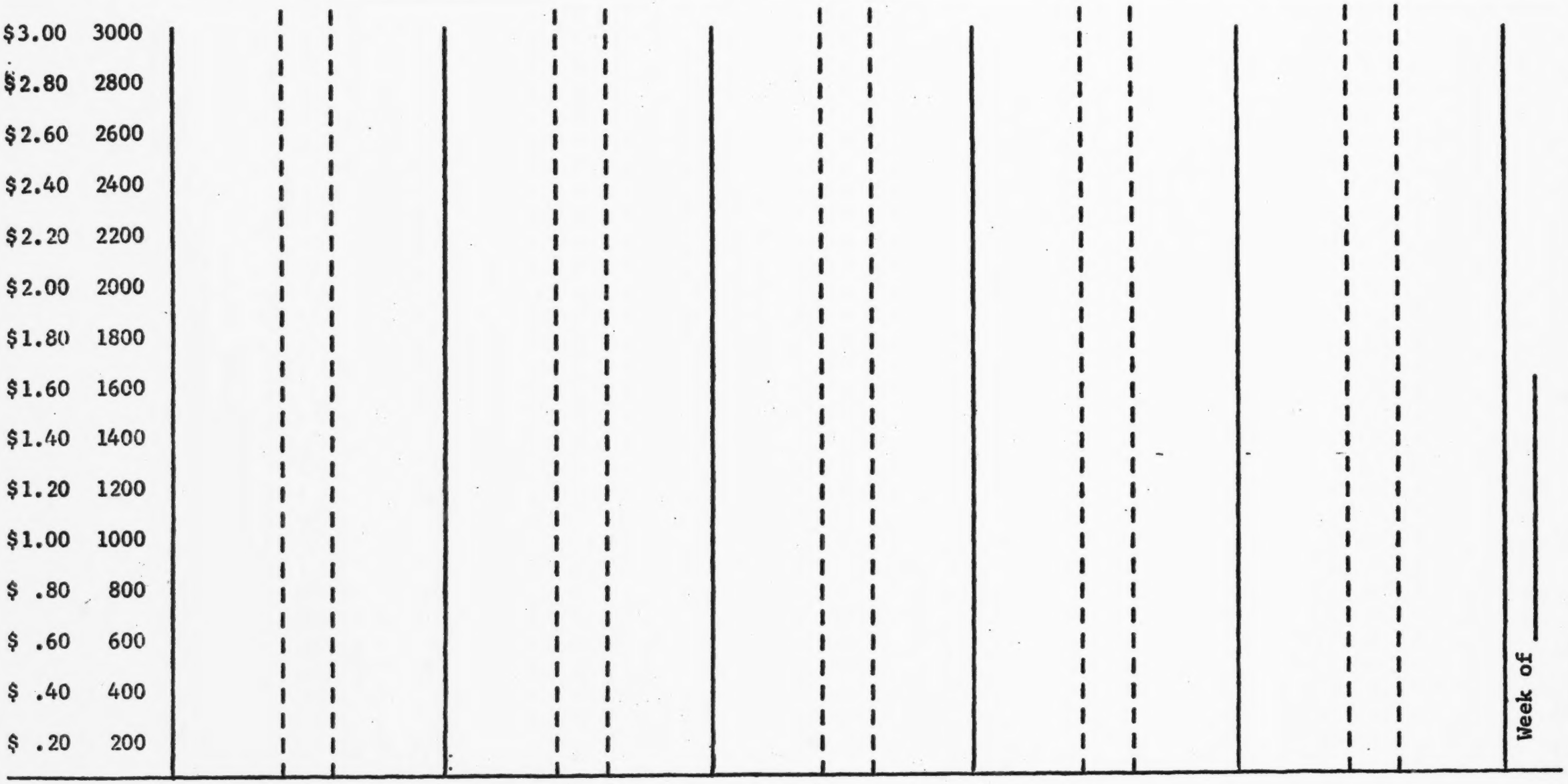
Student _____
Administrator _____
Session _____
Date _____

Vocabulary Review IX

Lesson # 161 through # 180



NAME_____ Administrator_____ Object worked for_____



Session _____	Session _____	Session _____	Session _____	Session _____
Red x 5 = _____	Red x 5 = _____	Red x 5 = _____	Red x 5 = _____	Red x 5 = _____
Yellow x 2 = _____	Yellow x 2 = _____	Yellow x 2 = _____	Yellow x 2 = _____	Yellow x 2 = _____
Blue _____	Blue _____	Blue _____	Blue _____	Blue _____
Total _____	Total _____	Total _____	Total _____	Total _____

INDIVIDUAL WORD PHASE

YELLOW TOKENS															
BLUE TOKENS															
CORRECT WORDS FIRST TIME THROUGH															
INCORRECT WORDS FIRST TIME THROUGH															
NUMBER of WORDS PRESENTED															
TOTAL NUMBER of READING ERRORS															
TOTAL NUMBER of READING RESPONSES															

ORAL READING PHASE

RED TOKENS															
YELLOW TOKENS															
CORRECT PARAGRAPHS FIRST TIME THROUGH															
INCORRECT PARAGRAPHS FIRST TIME THROUGH															
NUMBER of PARAGRAPHS PRESENTED															

NAME:

TOTAL PARAGRAPH ERRORS															
NUMBER of CORRECT WORDS FIRST TIME THROUGH															
NUMBER of INCORRECT WORDS FIRST TIME THROUGH															
NUMBER of INCORRECT WORDS FIRST TIME THROUGH PRESENTED IN IMMEDIATELY PRECEDING INDIVIDUAL WORD PHASE															
NUMBER of WORDS PRESENTED															
TOTAL INDIVIDUAL WORD ERRORS															
TOTAL NUMBER OF READING RESPONSES															

SILENT READING PHASE

YELLOW TOKENS															
TOTAL NUMBER of READING RESPONSES															

COMPREHENSION PHASE

BLUE TOKENS															
YELLOW TOKENS															
RED TOKENS															

NUMBER of CORRECT ANSWERS THE FIRST TIME THROUGH

NUMBER of INCORRECT ANSWERS THE FIRST TIME THROUGH

TOTAL NUMBER of INCORRECT ANSWERS

TOTAL NUMBER of READING RESPONSES

SUMMARY

TOTAL RED TOKENS

TOTAL YELLOW TOKENS

TOTAL BLUE TOKENS

TOTAL VALUE

TOTAL READING RESPONSES